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Testimony to the CGA Public Safety and Security Committee

Testimony by Louis W. Burch

Citizens Campaign for the Environment

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Hartford, CT

Senator Larson, Representative Dargan, distinguished members of the CGA Public Safety and Security Committee, thank you for the opportunity to submit testimony on this important issue.

My name is Louis Burch and I represent Citizens Campaign for the Environment (CCE). Supported by over 80,000 members in Connecticut and New York State, CCE works to empower communities and advocate solutions that protect public health and the natural environment. We are providing the following testimony in support of HB 5404:

Additive chemical flame retardants are toxic, contribute to a wide range of adverse health impacts, and are largely ineffective in improving fire safety. When used in non-polymeric additive foam, toxic flame retardants migrate out of household consumer products and into the home environment, leading to widespread human exposures. As they migrate out of furniture, they bond with household dust; making human exposure a very high probability. As a result, 97% of people living in the U.S. have measurable quantities of chemical flame retardants in their blood, as estimated by the national biomonitoring program conducted by the Center for Disease Control and Prevention (CDC)¹.

Environmental/Health Concerns

Organohalogen flame retardants are toxic due to their physical, chemical and biological properties. These chemicals have been associated with many adverse human health impacts including reproductive impairment (e.g., abnormal gonadal development, reduced ovarian follicles and reduced sperm counts as well as increased time to pregnancy), neurological impacts (e.g., decreased IQ in children, impaired memory, learning deficits, altered motor behavior, hyperactivity), endocrine disruption and interference with thyroid hormone action (potentially contributing to diabetes and obesity), genotoxicity, cancer, and immune disorders.

¹ Sjödin A, Wong LY, Jones RS, Park A, Zhang Y, Hodge C, et al. Serum concentrations of polybrominated diphenyl ethers (PBDEs) and polybrominated biphenyl (PBB) in the United States population: 2003-2004. Environ Sci Technol 2008b;42(4):1377-84.

Toxicological studies reveal that flame retardants pose a disproportionate risk to the development of fetuses, infants, and young children, due to their smaller, rapidly growing bodies and developing immune systems. A growing body of science confirms that exposure to flame retardants can contribute to serious health problems, including neurological and developmental impacts, reproductive impairments, hormone disruption, and others.

Chemical flame retardants are also highly persistent chemical contaminants that have been found as far afield as the Arctic. They collect in the fatty tissues of fish, wildlife, and humans, and can accumulate in both marine and terrestrial food chains. Flame retardants were the most common emerging contaminant in a 2002 U.S. Geological Survey (USGS) study, which analyzed 139 streams and rivers across the country. According to USGS, these chemicals are present in virtually every treated wastewater discharge in the nation².

Fire Safety

Fire safety is important, although there is growing evidence that calls into question the efficacy of chemical flame retardants in protecting the public from fires. In fact, household fires have become more toxic over the years as plastic appliances and furniture containing flame retardants have become more common. When products containing chemical flame retardants burn, they produce large quantities of toxic smoke, soot, and chlorine gas, which quickly turns into hydrochloric acid in the lungs. This puts firefighters and other first responders at an elevated risk of developing certain cancers from exposure to toxic fumes.

A National Institute for Occupational Safety and Health (NIOSH) study of cancer incidence among 30,000 career firefighters found higher rates of several types of cancer, including mesothelioma, esophageal cancer, mouth and pharyngeal cancer, and cancers of the kidney, breast, intestine, stomach and lung.³ Additionally, the University of Cincinnati conducted a meta-analysis of 32 peer reviewed published studies that included data from more than 100,000 firefighters. The study found that firefighters were 53% more likely to develop multiple myeloma, 51% more likely to develop non-hodgkins lymphoma, and 28% more likely to develop prostate cancer than the general population.⁴

The reality is that conventional wisdom regarding fire safety has improved, along with fire prevention infrastructure. The increased use of smoke and carbon monoxide detectors, improved building codes, improved firefighter training, and reductions in cigarette consumption have all led to a reduction of fire-related deaths⁵, calling into question the need for chemical flame retardants in everyday household products.

Conversely, insufficient evidence exists that proves the use of flame retardants actually prevents fire related deaths. Available data suggests that states without regulations requiring furniture foam to be treated with flame retardants are no more likely to have a higher incidence of fire deaths than the State of California,

² <http://toxics.usgs.gov/pubs/FS-027-02/>

³ Daniels R, Kubale T, Yiin J, Dahm, M, et al. Mortality and cancer incidence in a pooled cohort of US firefighters from San Francisco, Chicago and Philadelphia (1950-2009). *Occup Environ Med* 2014;71:388-397.

⁴ LeMasters G, Genaidy A, Succop P, Deddens P, et al. Cancer risk among firefighters: a review and meta-analysis of 32 studies. *Journal of occupational and environmental medicine / American College of Occupational and Environmental Medicine* 2006;48(11):1189-1202.

⁵ U.S. Fire Administration/National Fire Data Center. *A Profile of Fire in the United States, 1995-2004*. Fourteenth Edition, February 2008

where flammability standards (TB 117) led to the use of chemical flame retardants in household furniture foam from since 1975 (Shaw, 2010). In 2013, due to health concerns and a lack of evidence that chemical flame retardants improve fire safety, the State of California repealed TB 117, eliminating the flammability standard that led to the widespread application of chemical flame retardants on household furniture and appliances.

Unfortunately, flame retardants are poorly regulated in the U.S., and there are no formal mechanisms available to evaluate potential health impacts of these chemicals or remove those chemicals from the market. Chemical companies in the U.S. have no legal obligation to disclose information about potential environmental or public health hazards associated with the chemicals they produce. The Toxic Substances Control Act (TSCA) offers little protection from the hazards of exposure to toxic flame retardants. Under TSCA, the EPA is required to have “convincing evidence” of a significant health hazard *before* requiring a detailed toxicology report from any given manufacturer. Connecticut can be a leader in protecting public health and safety by raising the bar nationally and removing harmful flame retardants from consumer goods.

Given their toxicity, bioaccumulative properties, potential for long range transport, and disproportionate health impacts on children and firefighters, it is critical that states move towards prohibiting toxic flame retardants in children’s products and household consumer goods. **CCE supports the intent of this legislation and offers the following recommendations to strengthen the bill:**

- 1. Expand the focus of this legislation to cover the full class of organohalogen flame retardants and do not limit the scope to the six chemicals currently named in the bill text (decabromodiphenyl ether, hexabromocyclododecane, TDCPP, TDCP, TCEP and TCPP). Organohalogen flame retardants are all toxic and should be eliminated from household consumer goods.**
- 2. Accelerate the timeline under which this legislation would take effect. The proposed ban on the retail sale of these chemical flame retardants by 2020 is excessive, and instead should be implemented as soon as possible.**

In conclusion, CCE supports HB 5404, we applaud the Public Safety and Security Committee for raising this important issue and respectfully urge committee members to strengthen the bill and support its passage. On behalf of Connecticut’s children and firefighters, we thank you for your consideration and look forward to working with you all on this critical public health and safety issue.

